The evolving relation between dividends and flexible payouts

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The evolving relation between dividends and flexible payouts: A different evolution

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Abstract

We study payout by UK listed companies during 1993–2018. Regular dividends remain the dominant channel, but flexible payouts (special dividends and repurchases) have grown, and they make total payout more responsive to earnings. Flexible payouts are used to augment regular dividends: few companies pay out by flexible means only, and tests indicate that they augment rather than replace regular dividends. Comparison with US evidence shows that UK companies make greater use of dividends (including specials) in relation to repurchases, and have a greater willingness to change regular dividend per share.

KEYWORDS

dividends, payout policy, repurchases, special dividends

1 | INTRODUCTION

There have been major changes in the nature of payouts to shareholders by listed companies. Since the early 1980s share repurchases have grown dramatically in the United States, with more recent growth in other countries. It is argued that regular dividends have become less flexible and less responsive to earnings (Leary & Michaely, 2011; Skinner, 2008). In addition, the "consensus [view] in the literature" is that repurchases are gradually replacing dividends as

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the dominant payout channel (Bonaimé et al., 2020, p. 28). Several studies argue that the evolution of payout policy internationally is broadly similar to that in the United States (Farre-Mensa et al., 2014; Fatemi & Bildik, 2012; von Eije & Megginson, 2008).

In fact the evolution of payout policy in the United Kingdom has not entirely emulated the US experience, as the current paper shows. There are material differences in the proportion of listed companies that pay a regular divided, the propensity to pay regular dividends, the flexibility of regular dividends, and perhaps most importantly, the role of repurchases. Though repurchases by British companies have grown, our evidence shows that they are not replacing regular dividends. Special dividends are an important method of payout in the United Kingdom, and so we include both special dividends and repurchases as means of making flexible payouts.

We show first that regular dividends remain the dominant payout channel in the United Kingdom throughout our sample period (1993–2018). The phenomenon of disappearing dividends (Fama & French, 2001) starts later than in the United States, though it is more rapid while it lasts: the proportion of listed companies that pay a regular dividend falls sharply from 90% in 1997 to a low of 44% in 2006, with a recovery thereafter to 62% in 2018. In comparison, the proportion of US payers declines gradually from 67% in 1978 to only 15% in 2002, with a recovery to 28% by 2012. The volume and use of flexible payouts grow up to 2006 but not thereafter, and the growth is less in relation to dividends than that of repurchases in the United States.

In both countries the changes in the proportion of regular dividend payers can be attributed to changes in both the characteristics of listed companies and their propensity to pay dividends, holding the effects of characteristics constant. In the United Kingdom a shortfall of dividend payers appears in the late 1990s, nearly 20 years later than in the United States, reaches over 20% points by 2005, and shrinks gradually in the 2010s. In the case of the United States, much or all of the shortfall can be explained by the choice of some companies to pay out via repurchases only, rather than dividends (Grullon & Michaely, 2002; Michaely & Moin, 2019; Skinner, 2008). However, repurchases are not the main explanation for the UK shortfall. Only a small proportion of the shortfall can be accounted for by companies that make payouts by flexible means rather than regular dividends.

We examine next the flexibility of payouts. Previous studies uncover that dividends in the United States have become much less flexible over time (Leary & Michaely, 2011; Skinner, 2008), and survey evidence in Brav et al. (2005) highlights managers' distaste for the commitment to pay that is inherent in regular dividends. We find that regular dividends in the United Kingdom are markedly more flexible than in the United States, measured by the proportion of firm-years with a change dividend per share (DPS). Both reductions and increases in DPS are much more frequent in the United Kingdom; the modal policy is an increase in DPS, compared with static DPS in the United States. The greater willingness of British companies to change DPS is likely to be one reason for their lesser use of flexible payouts.

We also measure flexibility by the speed of adjustment (SOA) of a firm's dividends to changes in its earnings, using the Lintner (1956) model. Comparison of our mean SOA with estimates for 1895–1905 in Braggion and Moore (2011) indicates that there is a large decline in the SOA of regular dividends at some stage before 2001. The SOA of total payouts is higher than for regular dividends, and increases up to 2009, due to the growing use of flexible payouts. In the United States, similarly, there has been a long-term decline in SOA of dividends, and SOA of total payouts increases during 1980–2007 due to the growth in repurchases (Leary & Michaely, 2011). Hence, the evidence from both countries indicates that regular dividends become less flexible during the 20th century, at least measured by SOA, that the decline in flexibility largely predates the growth of repurchases, and that flexible payouts increase the SOA of the total payout.

A central question about the role of repurchases—or flexible payouts in the United Kingdom—is whether they are augmenting regular dividends, or replacing them. The augmentation hypothesis states that flexible payouts add to regular dividends. The replacement or substitution hypothesis states that companies tend over time to initiate or re-initiate payout by means of flexible payouts rather than regular dividends, and tend to replace increases in dividends by flexible payouts. Replacement clearly implies a larger role for flexible payouts.

Several early studies of US repurchases propose that they augment dividends; they are used mainly by dividend payers to pay out transient cash flows, whereas dividends pay out ongoing or permanent cash flows (Fama & French, 2001; Guay & Harford, 2000; Jagannathan et al., 2000; Lie, 2000). However, Fenn and Liang (2001) and Kahle (2002) present evidence that payout via repurchases instead of dividends is linked to the growing use of stock options to pay executives and employees. Grullon and Michaely (2002) find that firms increasingly initiate payout via repurchases, and that lower-than-expected dividend yields are associated with higher repurchase yields. Skinner (2008) makes a case that repurchases are gradually taking over, such that "there may come a time when dividends completely disappear" (p. 608). He argues that flexibility is the key advantage of repurchases, capable of explaining a widespread preference for this method of payout. Bonaimé et al. (2020) find that replacement by dividend-paying companies arises primarily when a company makes a repurchase instead of increasing its dividend.

Our tests of the replacement hypothesis are the first using non-U.S. data, as far as we are aware. The results consistently show that flexible payouts are used to augment, not replace, regular dividends. We find that most companies initiate or re-initiate payout by means of regular dividends, with only a modest increase in initiation by flexible means by the 2010s. We estimate firm-specific forecast errors for regular dividend yield, following Grullon and Michaely (2002), and compare the forecast errors with flexible-payout yields. The replacement hypothesis predicts a negative relation forecast error and flexible yield, but we find instead that there is no relation, and that dividend yield and flexible-payout yield are positively related. We run regressions in which the dependent variable is the increase (if any) in regular DPS, following Bonaimé et al. (2020). The replacement hypothesis predicts a negative relation with flexible payout per share, but there is a statistically significant positive relation in our data.

Augmentation also fits with other evidence we present. Mean equally weighted total payout ratios are higher in the 2000s and 2010s than the 1990s, due to higher flexible payout ratios. Little of the shortfall in dividend payers after 1998 can be explained by the use of flexible payouts instead, by companies predicted to make payouts. Over half of repurchases are small (less than 1% of assets) and most of these are made by or on behalf of the company's employee benefit trust, primarily to provide shares for share-related pay awards rather than to pay out cash. We include such repurchases in flexible payouts, but they are less likely to be viewed by managers as a substitute for regular dividends than are non-pay-related repurchases.

The paper contributes to the literature by providing detailed evidence on the evolution of payouts by UK companies, and by identifying material UK–US differences in the evolution of payouts, and in payout behaviour, in recent decades. These differences have not been demonstrated before. Specifically, (i) regular dividends remain dominant in the United Kingdom; the proportion of companies that pay regular dividends has remained higher, and use of repurchases has grown by less, in relation to dividends. In addition, special dividends are used to make flexible payouts, as well as repurchases. (ii) The propensity to pay regular dividends declines later (from the late 1990s) and more suddenly than in the United States. Whereas the gradual US decline can be explained by growth in the proportion of companies predicted to make a payout and paying out via repurchases, this is not the main explanation for the UK

shortfall of payers. (iii) Flexible payouts augment rather than replace regular dividends, implying a lesser role for flexible payouts in the United Kingdom than for repurchases in the United States. (iv) Regular dividends are more flexible, measured by willingness to change DPS.

There are also similarities in payout trends: large increases in repurchases since the 1980s in both countries (but smaller in the United Kingdom, in relation to dividends); long-term declines in dividend flexibility measured by SOA to earnings; the use of repurchases to increase payout flexibility; partial recoveries in recent years in the proportions of listed companies that pay a regular dividend, and in the propensity to pay.

In the 2000s and 2010s there is a substantial shortfall in regular dividend payers in the United Kingdom, as well as the United States. Most of the continued higher proportion of UK dividend payers during these years can be explained by the existence of a smaller proportion of early-stage companies on the stock market, rather than by a difference in the propensity to pay dividends. The sudden appearance of a shortfall of dividend payers during 1999–2006 is unexplained (Section 5.2). But despite the post-1998 shortfall, our evidence shows that, in the choice of payout channel, British companies give more weight to dividends (including specials), and less to repurchases, than do US companies.[1] British companies also show a greater willingness to change DPS. These are clear differences in payout behaviour.

2 | PREVIOUS RESEARCH ON DEVELOPMENTS IN UK PAYOUT

Existing research suggests that dividend payment is declining in the United Kingdom and most other countries, following the earlier US trend. Benito and Young (2003) and Ferris et al. (2006) for the United Kingdom, and Denis and Osobov (2008), von Eije and Megginson (2008) and Fatemi and Bildik (2012) for international samples, report large declines in the proportions of listed companies paying a dividend in the 1990s and early 2000s. The declines are partly explained by changes in company characteristics, but there are also increasing unexplained proportions of non-payers. Renneboog and Trojanowski (2011) note the growth of repurchases in the United Kingdom, and also the resilience of dividends.

Repurchases were re-legalized in 1981 (they had been made illegal in 1887). Rau and Vermaelen (2002) report much lower use of repurchases than might be expected given US practice, though Oswald and Young (2004) show that their repurchase data are incomplete. Rau and Vermaelen attribute the lower use of repurchases to more onerous regulation, and to the absence of a tax advantage to repurchases. In the United States repurchases had not been illegal, and the introduction of SEC Rule 10b-18 in 1982 gave repurchasing firms "safe harbour" protection from prosecution for market manipulation, unless they had material undisclosed information (Cook et al., 2003). Nevertheless it is unlikely that regulation has materially constrained repurchases in the United Kingdom, compared with in the United States.[2] The tax regime changed in 1997, after which there was a tax advantage to repurchases (see the Appendix).

[1]Whatever the reason for the shortfall, our evidence indicates that the decision of most of the non-dividend payers that account for it is not to pay out at all, rather than to pay out by flexible means.

[2]The UK-specific regulatory impediments identified by Rau and Vermaelen are "close periods" during which repurchases were prohibited under the UK's Listing Rules, and absence of treasury shares. After treasury shares were allowed in December 2003, UK firms were slow to make use of them, suggesting that their absence had not been a serious matter (Young & Yang, 2011). Pre-arranged repurchases during close periods were allowed by 2002, under Listing Rules 15.1(b) and (c) (see Appendix). US practice regarding close periods has been similar. US firms impose

There is a variety of other evidence regarding repurchases in the United Kingdom. Repurchase activity is linked to executive remuneration that involves an explicit earnings per share (EPS) target (Young & Yang, 2011), or involves CEO stock options and restricted stock (Geiler & Renneboog, 2015). Firms use repurchases to pay out surplus cash more readily when managerial and institutional ownership is higher (Oswald & Young, 2008b). The market reaction to announcements of intention to repurchase becomes less positive after treasury shares were legalized in 2003, perhaps because repurchasing becomes a less costly signal of undervaluation (Andriosopoulos & Lasfer, 2015). The reaction to news of executed repurchases is only positive for firms with Tobin's *q* below one, consistent with a favourable response if the repurchase forestalls overinvestment (Wang et al., 2009).

3 | DATA

3.1 | Sample and sources

We use the London Share Price Database (LSPD) for regular and special dividends, and Worldscope for accounting and repurchase data. Checks made against annual reports show that LSPD is more reliable than Worldscope for special dividends (LSPD does not report repurchases). The sample period is 1993–2018, with data from 1992 if needed to calculate changes. The year 2018 is the latest complete year available in LSPD at the time of writing. We start in 1993 because both databases have almost complete coverage of listed companies from that year (missing companies are an increasing problem in Worldscope before then). Hence, we avoid the potential problem of selection bias towards larger companies, noted by Denis and Osobov (2008).

Matching of companies across the databases is not straightforward. LSPD has the more comprehensive coverage of companies, so we start with the companies in LSPD and attempt to find matches in Worldscope. We match by Stock Exchange Daily Official List (SEDOL) code and, separately, by fuzzy matching using company names. We then attempt to hand-match companies with inconsistent matches or no matches. This process results in a match for over 99% of the firm-years in LSPD.

We include all listed UK-registered companies, even if they are only in the sample for 1 year, excluding investment and financial-sector companies. Utility companies are included; in the United Kingdom the financing policies of utilities, including payout, are not regulated, so there is no reason to exclude them. The final sample consists of 3196 companies, and 30,622 firm-years. The number of companies is 1083 in 1993, increasing to a maximum of 1576 in 2006, and falling subsequently to 844 by 2018.

3.2 | Regular dividends

LSPD records each interim, final and special dividend per ordinary share declared, not adjusted for any previous "capital change", that is, a scrip issue, share consolidation, or the

"blackout windows", during which trading in a company's shares by directors and the company itself is prohibited. Since 2000, preset repurchase plans have been possible under SEC Rule 10b5-1, enabling repurchases during blackouts (Bonaimé et al., 2020).

scrip element in a rights issue. LSPD records separately an adjustment factor for each capital change. We multiply the adjustment factors over time to obtain a cumulative adjustment factor to the start of the month on which each dividend is declared, and then multiply the unadjusted DPS by the cumulative adjustment factor. The full-year DPS is the sum of the adjusted interim and final DPS declared. To obtain dividend amounts, we multiply each DPS by the unadjusted number of shares at the start of the month the dividend was declared.

Dividends for firm-years ending before April 1999 are net of advance corporation tax (see the Appendix). A small minority of dividend payouts incorporate a scrip (share) alternative to the cash dividend. In these cases we record the full DPS declared, as though all shareholders choose to receive cash. There are eight cases where a scrip-only dividend is declared, which we count as a zero dividend.

3.3 | Special dividends

A special DPS is a one-off payment designated as such by the company. Special dividends declared per share are identified in LSPD by several headings (dividend codes 5–13, excluding 9). However, some special dividends are paid by means of a B-share scheme or court-approved capital reduction (see the Appendix), and most of these special-scheme dividends are missing from LSPD. We hand-collect special-scheme dividends by means of word searches (B-share; capital reduction; return of capital) of Regulatory News Service announcements, followed by checks in annual reports for confirmation. We record the amount declared in the announcement of a scheme as a special dividend for the financial year that gives rise to the declaration, as for a normal special dividend, unless the scheme was later cancelled.[3] We identify 144 special-scheme dividends made by sample companies during the sample period. The total amount paid via special schemes is £79.0 bn in 2018 pounds, out of a total of £171.2 bn for special dividends.

3.4 | Repurchases

Our repurchase data are the cash repurchases a company makes during each financial year.[4] This is a comprehensive measure that does not suffer from the various understatements of US repurchases documented by Banyi et al. (2008); the amounts spent on buying back shares are not offset by proceeds from concurrent share issues. To exclude repurchases of preference shares, we subtract any reduction in the value of preference shares outstanding. In 29 cases Worldscope incorrectly classifies B-share and capital-reduction scheme payouts as share repurchases. In these cases we remove the

[3]Often a given scheme results in more than one payment by the company, as not all shareholders choose to accept payment at the first opportunity. The actual amount(s) paid can differ slightly from the amount initially declared.

[4]Worldscope contains some missing data. An isolated "n.a." for repurchase is assumed to be zero (we checked for several companies that this is correct), and the firm-year is not excluded. There remain 3147 firm-years with dividend data in LSPD (including zero) but which we exclude due to absence of data or a reliable match. In 1264 cases the company disappears after the last recorded dividend; it is likely that it paid an interim dividend but did not survive the year as a listed company (so there are no other data for the year). For 1096 firm-years all the company's repurchase data are missing, though other financial data are recorded. For 814 firm-years either no reliable match can be made, or a match is made but the Worldscope record does not return any financial data.

incorrect repurchase data.[5] Repurchases and other variables are converted as needed to a per-share basis using the number of shares as at the end of the financial firm-year from Worldscope, and the cumulative adjustment factor calculated from LSPD data.

In the United States, repurchased shares are added to treasury stock by many companies, which means they can be re-issued without creating new shares. The question arises of whether to measure repurchases gross or net of treasury shares that are re-issued in the same year. Most authors choose gross. Fama and French (2001) and Skinner (2008) choose net, on the grounds that the net figure is a better measure of repurchases that are equivalent to dividends. We use gross repurchases. The UK Companies Act did not allow companies to hold treasury shares until December 2003. Also, a repurchase made in the same year as treasury shares are re-issued might still affect the company's payout via regular or special dividends.

3.5 | EPS

Worldscope only reports adjusted EPS, using a share count adjusted for capital events. Because Worldscope has less reliable capital-adjustment data than LSPD, we first calculate unadjusted EPS using the cumulative adjustment factor applied by Worldscope, and then re-adjust EPS using a cumulative adjustment factor calculated from LSPD data.

4 | REPURCHASES AND SPECIAL DIVIDENDS: A BRIEF COMPARISON

A repurchase and a special dividend share the key attribute of being a one-off payout, with no implied commitment to future payouts of at least the same amount. For this reason we count them together as flexible payouts in our main results.[6] To provide some background on their use, we show that special dividends are less frequent and larger (in relation to the size of the company) than repurchases, and that the primary motive for most small repurchases is to obtain shares for re-issue rather than to pay out cash.

There are 772 firm-years in the sample with a special dividend, paid by 467 separate companies, and 4268 firm-years with a repurchase, paid by 1180 companies. Figures 1 and 2 show histograms of the firm-year amounts of special dividends and repurchases, respectively, as a proportion of $Assets_{t-1}$. We see that 56% of special dividends are at least 5% of assets, including 25% that are at least 15% of assets. Only 11% are below 1% of assets. So special dividends are typically used to make occasional payouts of large amounts in relation to company size. The proportion of small repurchases is far higher: 56% of repurchase amounts are below 1% of assets. Only 4% of repurchases are at least 15% of assets.

[5]Identified by firm-years where the Worldscope repurchase amount is at least 90% of the B-share or capital-reduction payout. We leave a repurchase more than 10% below the scheme payout as it is. If a repurchase is above 10% above the scheme payout, we subtract the payout and treat the remainder as a repurchase made in addition.

[6]Most US research examines repurchases as the only type of flexible payout; exceptions include DeAngelo et al. (2000) and Lie (2000). Special dividends had largely died out by the late 1980s among NYSE-listed companies. In contrast, UK payers of specials are skewed towards large companies. Thirty-seven per cent of special-dividend payers are in the top 10% of our sample by market capitalization in the relevant year, compared with 2% in the bottom 10%.

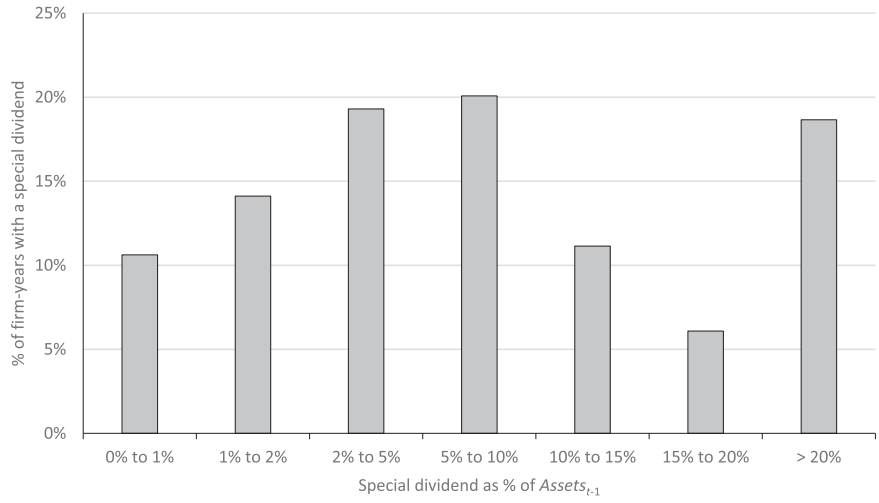

FIGURE 1 **Special dividends as a proportion of assets.** This figure shows a histogram of *Special dividend*$_t$/*Assets*$_{t-1}$. The sample is all firm-years with a positive value for special dividend; $N = 772$

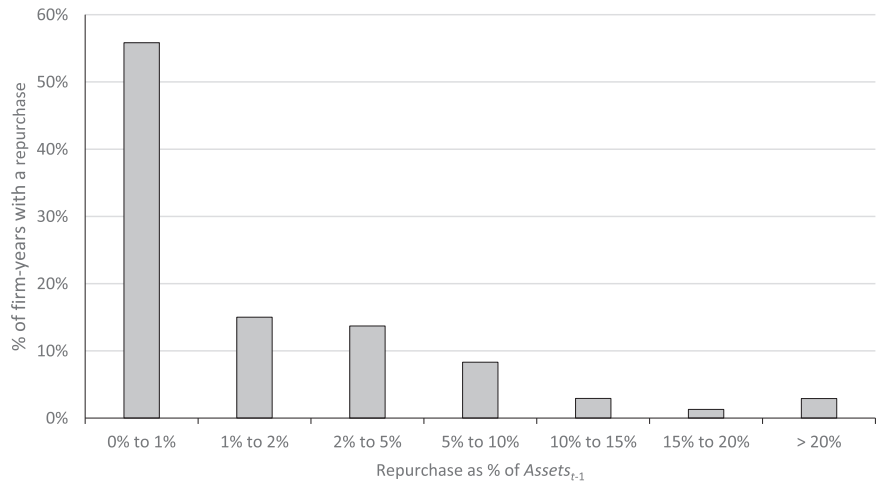

FIGURE 2 **Repurchases as a proportion of assets.** This figure shows a histogram of *Repurchase*$_t$/*Assets*$_{t-1}$. The sample is all firm-years with a positive value for repurchase; $N = 4268$

Why are so many repurchases small? We consulted the annual reports for a random selection of 440 of the firm-years with a repurchase, 10.3% of the total. Companies in their reporting distinguish between two reasons for repurchases: to pay out cash, or to provide shares to be re-issued under share-related pay contracts for staff, in which case the repurchase is executed by or on behalf of the company's employee benefit trust.[7] The note on share capital provides information about repurchases, and it is usually clear which reason applies. If both types of repurchase are made, separate amounts are shown. In addition, a repurchase to pay out

[7]Such trusts were allowed to hold repurchased shares before treasury shares held by the company were allowed in 2003.

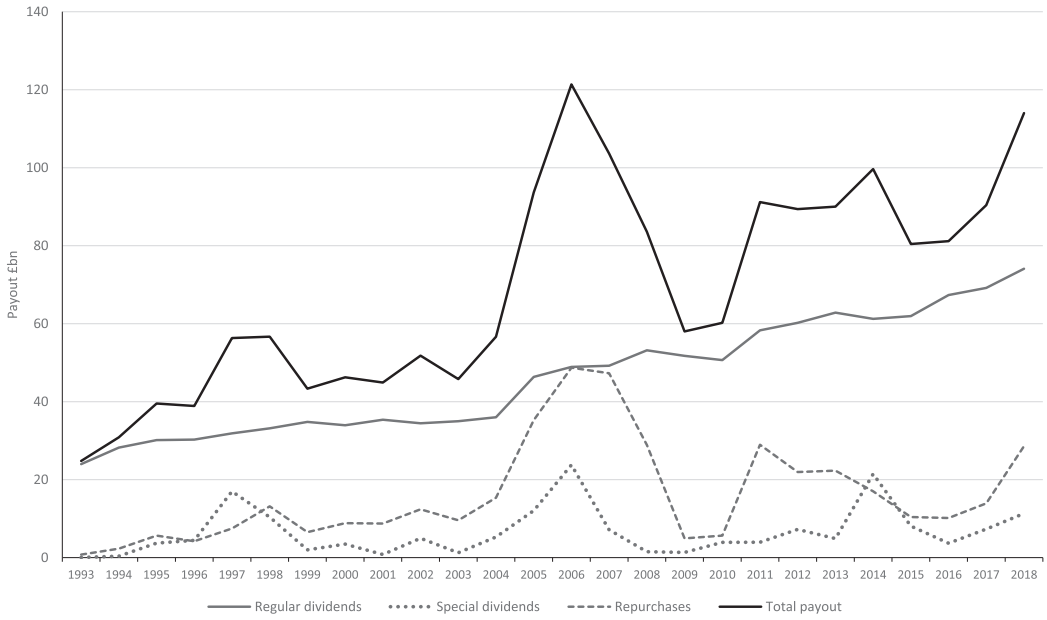

FIGURE 3 **Payout by value.** This figure shows total value of payout per year, and by method of payout, in billions of 2018 pounds; *N* firm-years = 30,622

cash is almost always mentioned, or indeed highlighted, in the main report—in the directors' report or financial review. A pay-related repurchase is rarely mentioned in the main report, because it is not viewed as a repurchase by the company.[8]

From our information from annual reports, 85.0% of firm-year repurchase amounts below 1% of assets are entirely pay-related, while 87.4% of amounts above 2% of assets are entirely or primarily to pay out cash (the pay-related component, if any, is less than 50% of the total amount). We therefore propose the following explanation for the different distributions in Figures 1 and 2. Special dividends, and most large repurchases, are implemented because the company wishes to pay out cash. Most of the numerous small repurchases are to provide shares that will be re-issued to satisfy share-related pay obligations. Possibly it is more convenient for the employee benefit trust to be able to re-issue shares from a pot of shares under its control, than to call on the company to issue new shares. An additional motive might be to prevent dilution of EPS which would often arise from issuing new shares. Kahle (2002), for example, argues that this is why US companies often use repurchased shares to fund the exercise of employee stock options.

The primary purpose of pay-related repurchases is unlikely to be to pay out cash. Hence, they are less likely to be viewed by managers as an alternative to payout via dividends than are non-pay-related repurchases. The inclusion of pay-related repurchases in our analyses is conservative in that it counts them all as payouts. It potentially biases upwards the measured role of repurchases as a method of paying out cash. However, pay-related repurchases could potentially affect the company's policy regarding dividends.

[8]In many annual reports for firm-years with a repurchase, (i) the directors' report states explicitly that the company has not carried out any repurchases during the year, yet (ii) the note on share capital records that pay-related repurchases were made by the employee benefit trust, funded by the company.

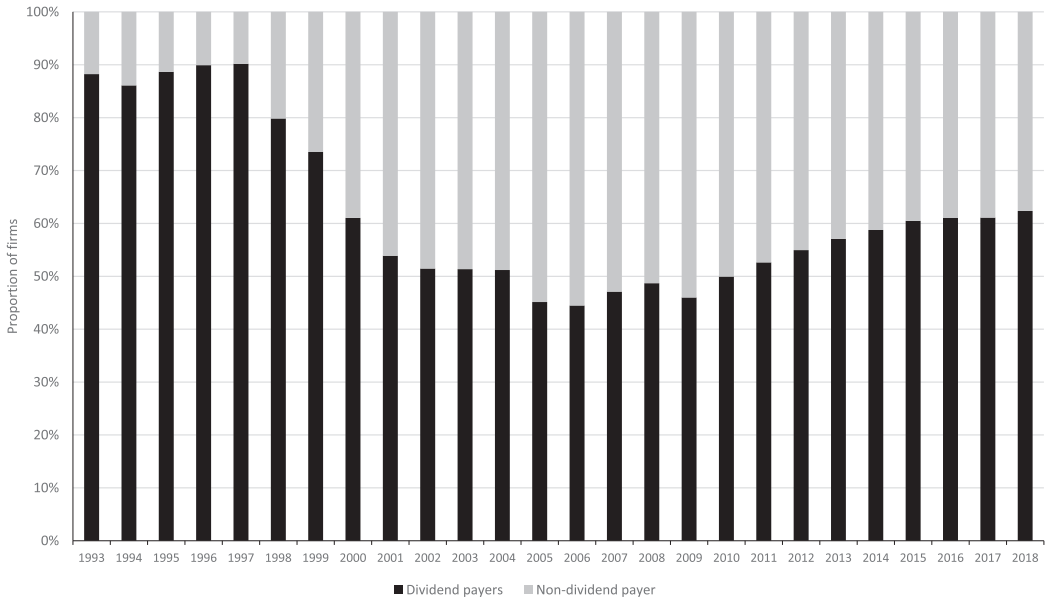

FIGURE 4 **Proportions of dividend payers and non-payers.** This figure shows proportions of firm-years with a regular dividend declared, and with no regular dividend; *N* firm-years = 30,622

5 | RESULTS

5.1 | Trends in payout

We start with descriptive evidence on trends in payout. Figure 3 shows total payout per year in 2018 pounds via regular dividends, special dividends, and repurchases. Regular dividends grow in most years, from £24 bn in 1993 to £74 bn in 2018. Flexible payouts are much more variable but also tend to grow, from below £1 bn to £40 bn over the same period. The jump in flexible and total payouts in 2005–2006 is striking, with total payout reaching a peak of £121 bn in 2006. This is followed by a large fall in flexible payouts during 2007–2009, no doubt linked to the financial crisis, followed by a recovery during 2010–2011, and no clear trend thereafter. In terms of payout by channel, repurchases grow from 3% of total payout in 1993 to a high of 46% in 2007, falling back to 25% in 2018 (from the data underlying Figure 3). Special dividends are typically between 3% and 10% of the total, with a high of 32% in 1997. Total flexible payouts exceed regular dividends in 2005, 2006 and 2007.

In the United States repurchase volumes show more growth in relation to dividends than do flexible payouts in the United Kingdom. The annual value of repurchases by industrial companies in the United States exceeds the value of dividends in 1998 and in nine of the subsequent 14 years (Floyd et al., 2015). In both countries flexible payouts fall sharply in 2008 and 2009, during the financial crisis. But repurchase amounts in the United States grow strongly after 2009 (Lazonick et al., 2020), whereas they recover in the United Kingdom to 2011, and then fluctuate (Figure 3).

Figure 4 shows the proportions of listed companies each year that do and do not pay a regular dividend. The proportion of payers initially rises slightly to 90% in 1997, then falls dramatically over 9 years to a low of 44% in 2006. Thereafter it recovers steadily to 62% in 2018. Comparison with the United States shows that the proportion of UK payers is much higher

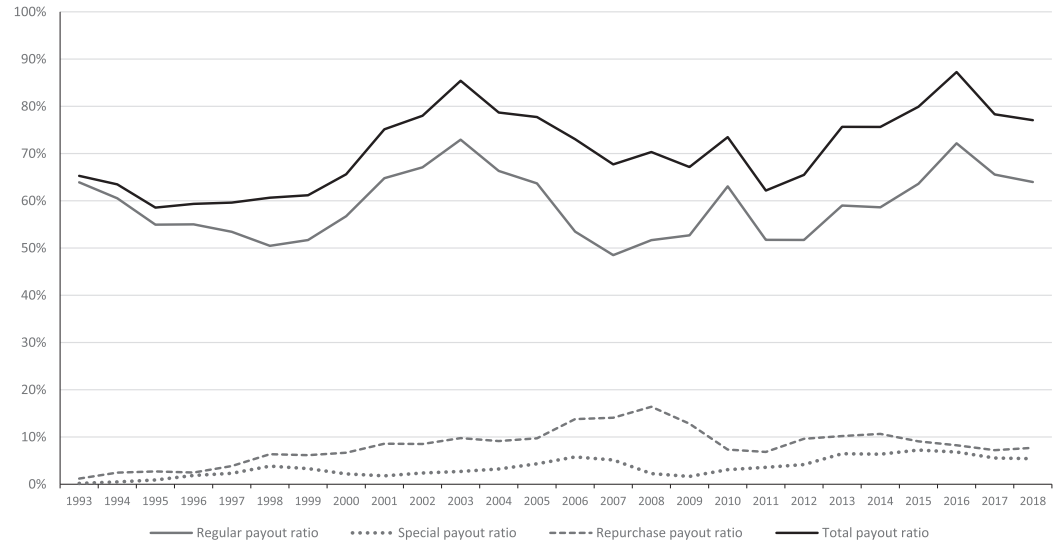

FIGURE 5 **Payout ratios.** This figure shows the equally weighted mean total payout ratio per year, and by method of payout. Payout ratio in firm-year $t = (Payout_{t-1} + Payout_t)/(Net\ income_{t-1} + Net\ income_t)$. A firm-year is excluded if the firm has zero total payout in years $t-1$ and t, or if the sum of net income in years $t-1$ and t is negative. Ratios for the full sample, for each method of payout, are winsorized at the 1st and 99th percentile; N firm-years = 16,359

throughout our sample period. The proportion of US dividend payers falls steadily from a maximum of 67% in 1978 (including Amex and Nasdaq firms) to a low of 15% in 2002, with a recovery to 28% by 2012 (Fama & French, 2001; Floyd at al., 2015).[9] We note in passing that the UK and US evidence for recent years suggests that the international declines in the proportions of payers noted in earlier studies (Section 2) may not be permanent.

Figure 5 shows the equally weighted mean payout ratio per year. The ratio for firm-year t is calculated as the sum across years $t-1$ and t of payout, divided by the sum of net income for years $t-1$ and t. This is to reduce the impact on the ratio of single years with low or negative net income. We exclude firm-years with zero payout in both years, or negative net income for both years combined. We see that, on an equally weighted basis, payout is dominated by regular dividends, even in the 2000s and 2010s. The mean payout ratio for regular dividends varies in a range between 51% and 73%, with no long-term trend. The mean flexible payout ratio grows from less than 2% in 1993 to a high of 20% in 2006, with no clear trend thereafter. The mean total payout ratio is variable but tends to grow, from 65% in 1993 to 77% in 2018, the peak being 87% in 2016. The total payout ratio is higher in all years after 1999, apart from 2011, than in any year previously.[10]

We also categorize companies into groups by payout policy, for three periods: 1993–2000, 2001–2009 and 2010–2018. We require companies to be in the sample for at least 4 years in the

[9]Michaely and Moin (2019, Figure 1) report proportions of US payers which are several percentage points higher than in the papers cited, perhaps because they exclude companies with assets of less than $500,000. Their data for 2013–2016 suggest there is no further increase in the proportion of payers after 2012.

[10]We do not show medians because they are zero for special dividends and repurchases. But the medians also show growth in regular and total payout. The median regular (total) payout ratio is 48% (48%) in 1993, and 47% (60%) in 2018. Growth in total payout is also clear using payout as a proportion of $Assets_{t-1}$. Mean regular (total) payout divided by assets is 2.8% (2.9%) in 1993, and 3.2% (4.3%) in 2018.

relevant period, to have sufficient evidence to categorize a company's payout policy. The main points are as follows (for brevity we do not tabulate the results): (i) The proportion of companies that make at least one flexible payout increases from 33% in the first period to 51% in the third. (ii) The proportion of companies that never pay a regular dividend, but make at least one flexible payout, rises from 1% in the first period to 6% in both the second and third periods. Some of these non-payers might be using flexible payouts as a substitute for regular dividends. (iii) The proportion of payout by value from companies that pay dividends every year, and make flexible payouts in at least one-third of years, jumps from 27% in the first period to 81% in the third. Hence, by the 2010s the bulk of payouts are made by companies that both pay regular dividends and make flexible payouts at least 1 year in three. The proportion of payout by value from companies that make flexible payouts only is just 2% in the third period.

Overall, the UK evidence to this point asserts that flexible payouts, especially repurchases, assume growing importance in relation to regular dividends, but only up to the financial crisis of 2007–2009.[11]

5.2 | Trends in propensity to pay

Several papers find that the decline in the proportion of companies that pay a regular dividend can be explained in part by changes in the characteristics of listed companies (DeAngelo et al., 2006; Fama & French, 2001; Hoberg & Prabhala, 2009; Michaely & Moin, 2019; Section 2 for United Kingdom and international studies). The proportion of early-stage companies with negative or low earnings increases over time, and such companies would not be expected to pay regular dividends, according to the life-cycle theory of dividend policy. But in most countries there has been a growing proportion of "unexplained" non-payers, that *would* be expected to be payers.

We use logit regression to estimate the coefficients on variables (company characteristics) associated with dividend payment during an estimation period of 1993–1997.[12] These coefficients together with firm-specific values of the variables for each subsequent year are used to predict whether a given company pays a dividend in the relevant year. There is a shortfall of payers if the actual proportion of payers is less than the predicted proportion; in the terminology of Fama and French (2001), a larger shortfall means a lower propensity to pay. The dependent variable is one if the firm-year has a positive regular dividend (or total payout), and zero otherwise. The explanatory variables, with their expected signs in brackets, are *Market-to-book* (−), *Asset growth* (−), *Return on assets* (+), *Size* (+), *Idiosyncratic risk* (−), *Systematic risk* (−), and *Retained equity/Assets* (+). The variables are defined in Table 1. The first four are used by Fama and French (2001), based on the arguments that the decision to pay dividends is negatively related to investment opportunities, and positively related to profitability and size. The measures of risk, and *Retained equity/Assets*, are introduced, respectively, by Hoberg and Prabhala (2009) and DeAngelo et al. (2006). Higher risk increases the expected cost of the future commitment to pay that is implied by regular dividends. Retained equity is a proxy for company maturity, and dividend payment is positively related to maturity according to the life-cycle theory.

[11]The results are very similar when we include financial-sector companies. There is no obvious difference in the behaviour of financial companies, in terms of trends in payout and use of flexible payouts.

[12]We also use a longer estimation period of 1993–2000. The predicted proportions of payers and the shortfalls for the years 2001–2017 show similar trends to those in Table 2, but are 2%–3% points smaller.

TABLE 1 Logit regressions for propensity to pay

This table reports the averages of the coefficients from logit regressions run for each of the first 5 sample years (1993–1997). The dependent variable = one if the firm-year has positive DPS (column 1) or positive total payout (column 2), and zero otherwise. The dependent variables are as follows. *Market-to-book* = (Assets – Shareholders' funds + Market capitalization)$_t$/Assets$_t$, where t is a calendar year and the values are measured as at the firm's financial year-end that falls within year t; *Asset growth* = (Assets$_t$ − Assets$_{t-1}$)/Assets$_{t-1}$; *Return on assets* = EBIT$_t$/Assets$_t$; *Size* = percent of listed firms with the same or lower market capitalization as at the end of year t; *Idiosyncratic risk* = standard deviation of non-market-related returns (from LSPD) using the log of monthly returns over 60 months to the financial year-end; *Systematic risk* = as for *Idiosyncratic risk* but using market-related returns (from LSPD); *Retained equity/Assets* = Retained profit$_t$/Assets$_t$. The above definitions follow those in Fama and French (2001) for the first four variables, Hoberg and Prabhala (2009) for the risk variables, and DeAngelo et al. (2006) for *Retained equity/Assets*. Newey-West standard errors (two lags) are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

	DPS > 0	**Payout > 0**
	1	**2**
Market-to-book	0.29	0.21
	(0.26)	(0.26)
Asset growth	0.64	0.63
	(0.47)	(0.39)
Return on assets	5.67***	5.09***
	(0.78)	(0.86)
Size	0.02**	0.02***
	(0.00)	(0.00)
Idiosyncratic risk	−5.73***	−5.66***
	(0.24)	(0.22)
Systematic risk	−2.69	−2.53
	(2.46)	(2.22)
Retained equity/Assets	1.67***	1.33**
	(0.15)	(0.32)
Constant	3.67***	3.72***
	(0.14)	(0.18)
N	5147	5147
Average pseudo-R^2	0.50	0.47

Column 1 of Table 1 shows the logit regression to explain payment of regular dividend. *Return on assets*, *Size*, *Idiosyncratic risk* and *Retained equity/Assets* have the signs expected and are significant at the 5% level or better. *Market-to-book*, *Asset growth* and *Systematic risk* are not significant.[13] Column 2 shows the regression to explain total payout. The results are similar to those for regular dividend.

[13]We expect the coefficients on these variables to be significant, given US evidence. However, no US study uses exactly our specification; none includes the risk variables as well as *Retained equity/Assets*. In unreported results we find that when *Retained equity/Assets* is excluded, *Market-to-book* has a negative coefficient as expected, significant at the 1% level.

Table 2 compares the predicted and actual proportions of firm-years with regular dividend payment, and total payout, for the years 1998–2018 (the earlier years are the estimation period for the predictive model). The proportion of predicted payers drops from 92% to a minimum of 68% in 2003, and there is a gradual increase in the 2010s to 81% by 2018. Comparison with the

TABLE 2 Propensity to pay

This table reports actual versus predicted proportions of payers by year. Predicted payers are based on the regression specification in Table 1. The coefficients are estimated using data from 1993 to 1997. Fitted values for firm-years during 1998–2018 are found by inserting firm-specific values for the explanatory variables. The predicted proportion of payers is the sum of the probabilities for each firm that it is a payer. *N* per year is slightly less than the full sample because of missing data for the explanatory variables (mostly *Asset growth* for newly listed firms). The missing firm-years are disproportionately for smaller, non-dividend-paying firms. This explains why the proportions of firm-years with dividend payment are a few percentage points higher than in Figure 4 for the full sample.

	Positive regular dividend			Positive total payout			
Year	Actual %	Predicted %	Actual −Predicted %	Actual %	Predicted %	Actual −Predicted %	*N*
1998	87.9	91.5	−3.6	88.5	91.8	−3.3	1127
1999	76.8	87.1	−10.3	77.5	87.5	−10.0	1168
2000	69.2	84.4	−15.2	70.8	84.9	−14.2	1156
2001	59.2	74.7	−15.5	60.9	75.6	−14.7	1234
2002	54.5	68.7	−14.2	56.4	69.9	−13.5	1263
2003	53.5	68.3	−14.8	55.6	69.5	−13.9	1228
2004	54.5	71.6	−17.1	56.4	72.6	−16.3	1178
2005	52.1	73.5	−21.4	55.1	74.5	−19.3	1188
2006	48.0	72.2	−24.2	50.6	73.3	−22.7	1352
2007	47.4	71.7	−24.3	50.8	72.7	−21.9	1379
2008	48.1	70.8	−22.7	52.1	72.0	−19.9	1258
2009	46.8	69.6	−22.8	51.8	70.7	−19.0	1134
2010	50.7	72.4	−21.7	54.7	73.4	−18.7	1047
2011	53.4	72.6	−19.2	56.1	73.5	−17.4	980
2012	54.7	72.0	−17.3	57.5	72.9	−15.4	935
2013	56.7	74.3	−17.6	60.5	75.2	−14.8	913
2014	58.5	76.5	−18.1	61.6	77.4	−15.8	886
2015	59.7	76.4	−16.7	63.6	77.3	−13.7	873
2016	61.6	79.5	−17.9	64.8	80.3	−15.5	841
2017	62.1	80.2	−18.1	65.3	81.0	−15.7	809
2018	64.3	81.0	−16.7	66.8	81.8	−15.0	768
All	57.7	75.4	−17.7	60.4	76.3	−15.9	22,717

TABLE 3 Changes over time in firm characteristics

This table reports 5-year averages (6 years for the last period) for firm characteristics. *N* firm-years = 27,370. The sample is the same as for Tables 1 and 2. The first four variables are defined in Table 1. *Age* = number of years the firm has been listed for a given calendar year *t*; *Tech firm* = proportion of firm-years in year *t* where the firm has an SIC code that identifies a "high-technology firm", following Kile and Phillips (2009); *Loss-making* = proportion of firms with negative net income in year *t*; *P* (*NP*) denotes results for firm-years in which the firm pays (does not pay) a regular dividend. All the differences in means and proportions between the *P* and *NP* samples are significant at the 1% level.

Panel A (years)	***Return on assets* (%)**		***Size* (percentile)**		***Idiosyncratic risk* (%)**		***Retained equity/ Assets* (%)**		***Age* (years)**		***Tech firm* (%)**		***Loss-making* (%)**	
1993–1997	8.7		57.5		35.2		9.2		19.0		9.4		13.6	
1998–2002	−1.8		54.2		45.0		−27.2		17.1		19.1		31.5	
2002–2007	−6.3		53.8		50.9		−86.0		15.4		26.0		40.3	
2008–2012	−5.0		55.2		51.1		−76.4		17.5		25.5		38.8	
2013–2018	−3.2		58.0		42.0		−63.4		22.0		24.6		34.3	
Panel B	***P***	***NP***	***P***	***NP***	***P***	***NP***	***P***	***NP***	***P***	***NP***	***P***	***NP***	***P***	***NP***
1993–1997	10.6	−11.8	60.5	26.5	32.6	62.6	17.5	−77.6	19.3	16.3	9.1	12.4	8.9	62.3
1998–2002	9.3	−26.4	61.4	38.0	36.6	63.7	17.0	−125.9	19.6	11.5	12.3	34.1	13.2	72.1
2003–2007	9.5	−22.8	69.1	38.0	36.7	65.6	19.3	−195.1	20.5	10.1	17.7	34.5	10.2	71.5
2008–2012	9.2	−19.6	70.0	39.9	36.8	65.9	24.9	−180.7	22.2	12.7	20.6	30.5	10.9	67.6
2013–2018	8.7	−21.9	70.8	37.7	30.9	59.5	28.5	−207.7	25.1	17.1	21.5	29.5	10.6	71.6

proportion of actual payers shows a shortfall that increases from 3.6% points in 1998 to 24.3 points in 2007, and thereafter reduces gradually to 16.7 points in 2018. The results for 1998–2002 are similar to those in Ferris et al. (2006) and Denis and Osobov (2008), though in their estimates a substantial shortfall of payers only appears in 2000. The results in Table 2 show that (i) there was sharp fall in the predicted (as well as actual) proportion of payers during 1999–1903, and (ii) the fall in propensity to pay was also sharp and was concentrated in the years 1999–2006.

The trends over time for total payout are similar to those for regular dividends. The proportions of predicted payers are barely higher for total payout than for regular dividends. At the same time the actual proportions of firm-years with a positive total payout are only a few percentage points higher than the proportions with a regular dividend, because the proportions of firm-years with an exclusively flexible payout are only a few percentage points. These results mean that the shortfalls for total payout are not much lower than for regular dividends (the maximum difference between the two shortfalls is 3.8% points, in 2009).

The evidence on the proportions of predicted payers implies that changes in the characteristics of UK listed companies are important in explaining the proportions of dividend payers. Table 3 provides more explicit evidence. The table shows 5-yearly averages of firm-year observations for the four significant variables in the logit regressions (Table 1), plus three other variables: the number of years since the company was listed, the proportion of high-technology companies, and the proportion of firm-years in which the company reports a loss. Table 3 shows that, between 1993–1997 and 2002–2007, listed companies on average become less profitable, smaller, younger, with higher idiosyncratic risk, and lower retained assets/equity. For example, the proportion of loss-making companies increases from 13.6% to 40.3%, and the proportion of high-technology companies from 9.4% to 26.0%.[14] These changes help explain the decline after 1997 in the proportion of predicted payers of regular dividends. One reason for the changing composition of companies is the launch by the London Stock Exchange of the Alternative Investment Market (AIM) in 1995. AIM made it easier for young companies to gain a listing, as had the creation of Nasdaq in the Unted States in 1971. After 2007 the changes tend to reverse, consistent with the increasing proportion of predicted payers. Table 3 also shows the averages over time of the variables for samples split according to whether the company paid a regular dividend in the relevant year. There are large differences across the payer and non-payer groups, in the directions expected, for all the variables.

Comparison with US evidence on predicted proportions of payers and shortfalls should be viewed as approximate, because the predictive models are calibrated using within-country samples, and have different specifications and estimation periods. However, it appears that much of the cross-country difference in the proportion of regular dividend payers (Section 5.1) is attributable to differences in the characteristics of listed companies. For the United States, the predicted proportion of firm-years with dividend payment reaches a low of around 45% in the late 1990s, and stays below 50% in the 2000s and 2010s (Fama & French, 2001, p. 24; Michaely & Moin, 2019, Table 2). The predicted proportion for the United Kingdom is more than 40% points higher in 1998, and remains 25–30 points higher in most subsequent years. The comparison suggests that early-stage companies started to be listed later in the United Kingdom, and that such companies remain a smaller proportion of listed companies in the 2000s and 2010s.

[14]We use the list of three-digit SIC codes recommended by Kile and Phillips (2009) to identify tech companies. They find that 51% of US listed companies are tech companies in 1996–2001, compared with 19% for the United Kingdom in 1998–2002 (Table 3).

Regarding propensity to pay, the US shortfalls of actual compared with predicted payment start in the early 1980s, about 15 years earlier than in the United Kingdom. Several studies argue that the primary reason for the shortfalls in the United States is that many predicted payers choose to pay out via repurchases instead of dividends (Grullon & Michaely, 2002; Michaely & Moin, 2019; Skinner, 2008). Skinner finds that, by the 2000s, 29% of US companies pay out via repurchases only. Michaely and Moin (Figures 3 and 5) report consistent shortfalls of between 10% and 25% points since the mid-1980s in regular dividends, but not total payout. They infer that most of the companies predicted to pay out via dividends, and not doing so, are choosing to pay out via repurchases instead. In contrast, our shortfalls for total payout are only a few percentage points smaller than for regular dividends, because few companies pay out by flexible means only. Therefore, the growth of flexible payouts is not the main reason for the sharp decline in propensity to pay regular dividends in the United Kingdom during 1999–2006.[15] This leaves open the question of why the decline occurred.

5.3 | Flexibility of regular dividends

One of the reasons for the growth of repurchases in the United States is likely to be that dividends are perceived as inflexible by executives (Brav et al., 2005). Skinner (2008) and Leary and Michaely (2011) present evidence that dividends have become more conservative over several decades, that is, less responsive to changes in earnings. This lack of responsiveness forms part of Skinner's case that they are in decline, and inferior to repurchases as a payout method (because they are not as flexible). British dividends might also have become less flexible over time. Turner et al. (2013) and Braggion and Moore (2011) study the dividend policies of British listed companies in 1825–1870 and 1895–1905, respectively. Both papers argue that the early dividends show flexibility (repurchases were made illegal in 1887, and were rare before then). Braggion and Moore maintain that dividends were much more flexible at the turn of the 20th century than in recent decades, though they do not directly study the recent era.

Evidence from other countries suggests that the United States is an outlier in terms of dividend inflexibility. Dewenter and Warther (1998) for Japan, Goergen et al. (2005) for Germany, Chemmanur et al. (2010) for Hong Kong, and von Eije et al. (2017) for Latin America, all argue that regular dividends are more flexible in the countries or areas they study.

5.3.1 | Changes in DPS

We measure dividend flexibility in several ways. First, Table 4 shows proportions of firm-years accounted for by the various types of dividend change in our sample, and also shows equivalent results from other studies.[16] To aid comparability, we show results both for our whole sample, and excluding firm-years of firms that never pay a regular dividend during the sample period

[15]Denis and Osobov (2008, p. 75) reach the same conclusion, stating that "firms repurchasing shares in the UK typically pay dividends as well". However, they do not study repurchases, and their sample period ends in 2002, when propensity to pay was still decreasing.

[16]We do not include the results for Hong Kong in Chemmanur et al. (2010), Germany in Andres et al. (2015) and Latin America in von Eije et al. (2017). Either their sample exclusions are unclear, or they apply a filter to dividend changes.

TABLE 4 Comparison of results for changes in regular dividend

This table reports results on the frequency of changes in DPS, from the current and other studies. All samples are for listed companies, except as noted. For the current study, the table shows proportions of firm-years in the following categories: increase = $DPS_t > DPS_{t-1} > 0$; no change = $DPS_t = DPS_{t-1} > 0$; cut to non-zero = $DPS_t < DPS_{t-1} > 0$; first omission = $DPS_t = 0 < DPS_{t-1}$; other omission = $DPS_t = DPS_{t-1} = 0$ (includes non-payers if they are not excluded); initiation = $DPS_t > DPS_{t-1} = 0$, including re-initiation. A firm-year with data for DPS_t but not DPS_{t-1} is excluded.

	Country	Sample period	Excludes never-payers?	Increase (%)	No change (%)	Cut to non-zero (%)	First omission (%)	Other omission (%)	Initiation (%)
This study	UK	1993–2018	Y	53.0	10.3	11.2	6.2	16.6	2.8
			N	41.5	8.1	8.7	4.8	34.7	2.2
Michaely and Roberts (2012)[a]	UK, listed	1993–2002	N	64.0	n.s.	16.5	3.7	n.s.	3.0
Michaely and Roberts (2012)[a]	UK, private[b]	1993–2002	N	26.4	n.s.	20.8	7.9	n.s.	6.6
Braggion and Moore (2011)[c]	UK	1895–1905	Y	26.0	50.7	19.3	1.7	excl.	2.2
Turner et al. (2013)[d]	UK	1825–1870	N	14.5	n.s.	9.4	2.0	n.s.	4.7
Goergen et al. (2005)[e]	Germany	1985–1993	Y	33.9	48.6	17.6		in n.c.	in inc.
Dewenter and Warther (1998)[f]	Japan, keiretsu	1982–1993	N	33.3	n.s.	13.5[g]	1.5	n.s.	2.2
Dewenter and Warther (1998)[f]	USA	1982–1993	N	52.5	n.s.	5.5[g]	0.9	n.s.	0.6

TABLE 4 (Continued)

	Country	Sample period	Excludes never-payers?	Increase (%)	No change (%)	Cut to non-zero (%)	First omission (%)	Other omission (%)	Initiation (%)
Daniel et al. (2008)[h]	USA	1992–2005	Y	38.0	59.0	3.0		excl.	excl.
DeAngelo et al. (1992)[i]	USA	1980–1985	Y	n.s.	n.s.	4.3	1.0	n.s.	n.s.

Abbreviations: n.s., not shown but in sample (so percentages shown sum to <100%); excl., not in sample; in n.c., included in "no change"; in inc., included in "increase".

[a]Results shown are for their sample of listed firms matched with unlisted firms. This excludes firms with an IPO.

[b]Unlisted companies with less than 26 shareholders.

[c]Sample is derived from dividend announcements, so probably excludes omissions that follow a first omission.

[d]The proportion of "no change" is 69.5% (their Table 3). This includes non-dividend-paying companies. The proportion of non-payers is 22.4% (their Table 1).

[e]Special dividends are included. Sample companies were all dividend payers in 1984. We show equally weighted averages of the figures for individual years that are reported in the paper.

[f]Members of a keiretsu are the category of company with the most flexible dividends. We show proportions of the full samples of keiretsu and US companies (panel A of their table VI).

[g]The authors exclude cuts in a series, except for the first cut in each series.

[h]Figures from text: "payers increase dividends in 38% of the firm-years, maintain dividends in 59% of the firm-years, and decrease dividends in 3% of the firm-years (p. 15). We infer that non-payers are excluded, and firm-years with "other omission" ($DPS_t = DPS_{t-1} = 0$) and "initiation" ($DPS_t > DPS_{t-1} = 0$).

[i]Sample companies have at least 10 consecutive years of positive EPS and DPS before a loss (if any) is reported.

(21.3% of all firm-years). The most common decision is an increase in DPS, accounting for 53.0% of observations excluding never-payers. The proportion of firm-years with a cut in DPS or first omission is 17.4%.

We make several points based on the simple "proportions of changes" in the table. First, regular dividends are indeed less flexible in the United States than in other countries, in terms of willingness to change DPS. The proportion of firm-years with a cut or first omission is only 5.3% (DeAngelo et al., 1992, for 1980–1985), or 3.0% (Daniel et al., 2008, for 1992–2005), excluding never-payers. This is much lower than in the United Kingdom and elsewhere. In Daniel et al., 59% of decisions are no change, and 38% are an increase, whereas for UK companies, 10.3% of decisions are no change, and 53.0% are an increase.[17] Willingness to change DPS helps explain our evidence that UK companies use flexible methods to augment their payouts, rather than replace increases in dividends or replace them altogether. To the extent that regular dividends are flexible, companies have less incentive to switch to flexible methods. The point is reinforced if special dividends are viewed as part of the dividend channel, in which case the choice is between payout via dividends including flexible specials, and payout via repurchases.

Second, Table 4 shows that the regular dividends of UK listed companies are as flexible in recent times as they were in the 19th or early 20th century; they are of similar flexibility in terms of willingness to decrease DPS, and are more flexible in terms of willingness to increase. In our data 11.2% of firm-years show a cut in DPS, and 6.2% a first omission. The proportions for 1825–1870 (1895–1905) are 9.4% (19.3%) for a cut and 2.0% (1.7%) for a first omission.[18] A third point is that willingness to change DPS is roughly similar in the United Kingdom as in Germany, and Japan for keiretsu companies.

5.3.2 | Speed of re-initiation

An aspect of flexibility is willingness to re-instate regular dividends after a period of omission due to losses. Goergen et al. find for German companies that re-initiations are 28.6% in the first year of profit and 27.0% in the following year. This is part of the evidence from which they conclude that regular dividends are more flexible in Germany than the United Kingdom or United States. We investigate re-initiation in Table 5. The sample consists of companies with a loss and a first omission in year τ, after positive DPS in the two previous years, followed by a sustained return to profit from year t onwards, where t is after τ. We find that 31.9% of the sample re-initiate their regular dividend in year t, 21.9% in year $t+1$, and 13.7% in year $t+2$. Hence, speed of re-initiation is similar in the United Kingdom and Germany.[19]

[17]Daniel et al. exclude omissions after the first omission, and initiations. Excluding these observations from our sample, our figures are 12.4% for no change and 63.5% for increase.

[18]Braggion and Moore's data for 1895–1905 exclude omissions after the first omission. Excluding these observations from our sample, our figures are 13.4% for a cut and 7.4% for a first omission.

[19]We also examine the behaviour of dividend payers around reported losses. In the first year of loss, 36% of firms cut DPS to non-zero, and 21% omit the dividend. The figures for Germany in Goergen et al. are 11% for a cut and 80% for an omission. Arguably the high proportion of omissions shows flexibility. The loss observations for Germany are all from a recession period lasting several years (1989–1993). For our sample of firms with at least 2 consecutive years of loss, 25% cut DPS to non-zero by year 2, and 59% omit the dividend.

TABLE 5 Re-initiation of regular dividend

This table reports proportions of firm-years with re-initiation of regular dividend, for companies with at least three consecutive years of profit, following a loss. The sample consists of companies with sequences in which $DPS_{\tau-2} > 0$, $DPS_{\tau-1} > 0$, $DPS_{\tau} = 0$, $EPS_{\tau} < 0$, $EPS_{t} > 0$, $EPS_{t+1} > 0$ and $EPS_{t+1} > 0$. Year t is at least 1 year later than year τ; $N = 270$ companies.

Re-initiation year t (%)	Re-initiation year $t+1$ (%)	Re-initiation year $t+2$ (%)	No re-initiation years t to $t+2$ (%)
31.9	21.9	13.7	32.6

5.3.3 | SOA to earnings

Another measure of flexibility is the relation between earnings and payout as measured by the speed-of-adjustment (SOA) coefficient in the Lintner model. The model for a given company i is

$$DPS_{it} = a_i T_i(EPS_{it}) + (1-a_i)DPS_{it-1}$$
$$\text{or}\Delta DPS_{it} = DPS_{it} - DPS_{it-1} = a_i T_i(EPS_{it}) - a_i DPS_{it\text{-}1}, \quad (1)$$

where T_i = target payout ratio and a_i = speed of adjustment to target. We estimate the model on a per-share basis, following Leary and Michaely (2011) in the belief that managers think primarily in terms of DPS when setting dividends. The values of T_i and a_i are estimated from the following firm-specific time-series regression:

$$\Delta DPS_{it} = \alpha + \beta_1 EPS_{it} + \beta_2 DPS_{it-1} + e_{it}, \quad (2)$$

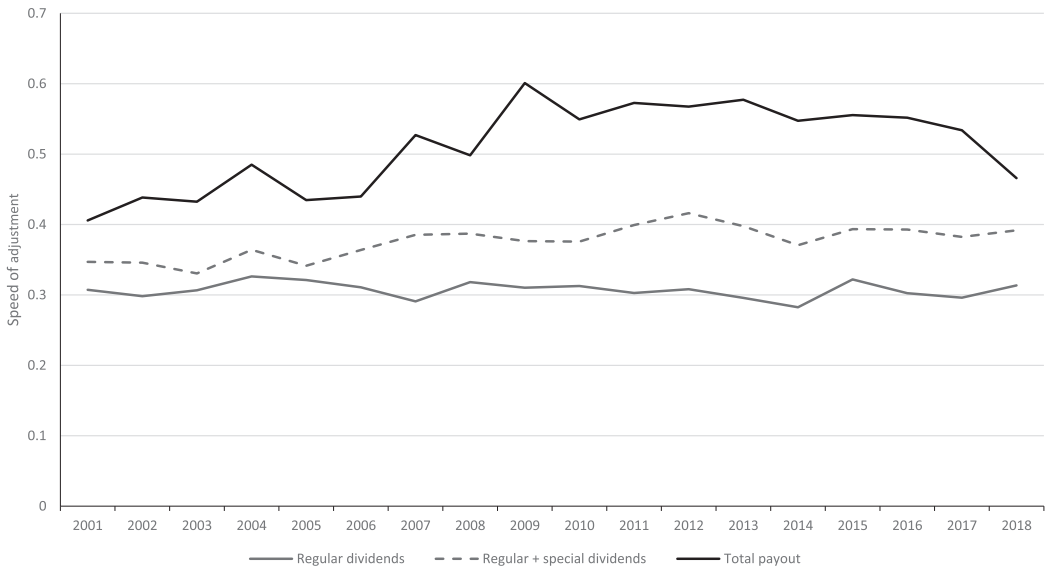

FIGURE 6 **Speed of adjustment.** This figure shows mean speed of adjustment (SOA) for regular dividend, regular plus special dividend, and total payout. SOA is calculated using Equation (2). To be included in the sample, we require each firm to have at least 8 years of data, up to and including a given firm-year. SOAs for the full sample, for each measure of payout, are winsorized at the 1st and 99th percentile; N firm-years = 8030

with T_i estimated by $-\beta_1/\beta_2$, and a_i by $-\beta_2$. The regressions use a minimum for each firm of 8 consecutive years and a maximum of 10.

Figure 6 shows annual mean SOA for the period 2001–2018, after winsorizing SOA for these years combined at the 1st and 99th percentiles. Estimated SOA for regular dividends fluctuates, with no clear trend; the mean is 0.31 (median 0.22; not shown) in 2001 and 0.31 (0.27) in 2018. The SOA for dividends with special dividends included is higher than for regular dividends only, as expected; the mean is 0.35 (0.28) in 2001 and 0.39 (0.35) in 2018. SOA for total payout with repurchases included is higher again: SOA for total payout increases from 0.41 (median 0.37) in 2001 to 0.47 (0.51) in 2018, though there is a fall after 2009. Figure 6 shows that both forms of flexible payout are used in a way that makes total payout more sensitive to changes in earnings, and less smoothed.

There is no sign that regular dividends become less responsive to earnings during 2001–2018. But SOA is markedly less than it was during 1895–1905 (mean of 0.81 in Braggion & Moore, 2011), and less than for contemporary private firms (median of 0.83 in Michaely & Roberts, 2012). The probable reason for the higher SOA for listed firms in the early 20th century, and for private firms today, is that increases by contemporary listed firms, though more frequent (Table 4), are smaller on average, as discussed by Braggion and Moore (2011) and Michaely and Roberts (2012). Braggion and Moore report that the average dividend increase in their sample is 40%. In our sample it is somewhat lower, at 27.0% (median 13.9%) (not tabulated).[20] They write that companies "did not slowly ratchet dividends upward (and then cut them only in times of distress)" (p. 2950).

Ratcheting-up each year does imply greater smoothing (and lower SOA), compared with less frequent and larger increases. But does it imply less flexibility? The most important aspect of flexibility is surely flexibility downwards, that is, the extent to which increases or one-off payouts can be made without a commitment to maintain the level of payout subsequently. It is uncertain whether regular dividends have become less flexible downwards since the 1900s. However that may be, listed companies today are clearly willing to enhance the flexibility of total payouts by using flexible methods on a large scale.[21]

The US evidence on SOA is broadly similar. SOA for regular dividends falls steadily between 1945 and 2003, and SOA for total payouts increases with the growth of repurchases in the 1980s and 1990s (Leary & Michaely, 2011; Skinner, 2008).[22] One question is whether the rise of repurchases could be a cause as well as a consequence of dividend inflexibility. Much of the decline in SOA in the United States pre-dates the era of repurchases, suggesting that repurchases are not the main cause (though SOA does continue to decline as repurchases increase). For the United Kingdom, similarly, the decline in SOA for regular dividends is not recent. It must have occurred over some time between 1905 (the end of Braggion and Moore's sample period) and 2001 (the first year of our SOA estimates). In addition, the substantial use of flexible payouts since 2001 is not associated with a further reduction in SOA (Figure 6). Hence,

[20]This is the mean increase in regular dividend paid (not DPS), in firm-years with an increase, as in Braggion and Moore. The mean decrease for cuts to non-zero is 42.7% (median 50.0%).

[21]A question which arises is why UK companies have not in the past made more use of special dividends. LSPD data go back to 1976. The data indicate that use of special dividends was rather less during 1976–1992 than during our sample period.

[22]Leary and Michaely report a fall in median SOA from a high of 0.65 in 1945, to below 0.10 by 2003. They estimate SOA using a method to alleviate a small-sample bias; the bias results in over-estimation of SOA. Using their method, we find the median SOA for regular dividends during 2001–2018 is only 0.14, not much higher than the US figure for 2003.

TABLE 6 Payout initiations and re-initiations by payout method

Panel A shows methods by which companies initiate payout, 1993–2018. The sample is companies with no previous payouts, that make at least one payout. The panel also shows companies that initiate with a flexible payout, and subsequently start paying regular dividends.

Method	Period 1 1993–2000 (%)	Period 2 2001–2008 (%)	Period 3 2009–2018 (%)	Full sample	*p* value for difference in proportions between periods		
					1 and 2	2 and 3	1 and 3
Regular dividend	71.2	64.9	67.5	67.3	0.068	0.442	0.337
Flexible payout[a]	8.3	24.6	19.0	18.7	0.000	0.060	0.000
Regular dividend and flexible payout	20.5	10.5	13.4	14.0	0.000	0.216	0.023
Total initiation	100	100	100	100			
N	288	487	305	1080			

Panel B shows methods by which companies re-initiate payout, 1993–2018. The sample is companies that omit DPS at least once and re-initiate, that is, companies with $DPS_{\tau-1} > 0$, $DPS_{\tau} = 0$, and $Payout_t > 0$, where t is after τ and both years are in the sample period. Companies are sorted by period in which they re-initiate payout.

Method of re-initiating payout	Period 1993–2000 (%)	Period 2 2001–2008	Period 3 2009–2018	Full sample	*p* value for difference in proportions between periods		
					1 and 2	2 and 3	1 and 3
Regular dividend	86.2	58.8	60.6	65.6	0.000	0.742	0.000
Flexible payout	10.3	29.7	23.9	23.1	0.001	0.251	0.010
Regular dividend and flexible payout	3.4	11.5	15.5	11.3	0.033	0.311	0.004
Total re-initiation	100	100	100	100			
N	87	148	155	390			

[a]6.0% of the full sample initiate payout be flexible means, and subsequently initiate regular dividends.

our evidence suggests that growth in the use of flexible payouts is not the main cause of the 20th-century decline in SOA.[23]

5.4 | Tests of replacement hypothesis

5.4.1 | Payout at initiation and after an omission

We now turn to whether flexible payouts are replacing dividends in the United Kingdom. Replacement can happen in two ways. Complete replacement arises if a company that initiates payout for the first time, or omits its regular dividend, initiates or re-initiates payout by means of a flexible method. Partial replacement arises if a company substitutes flexible payouts for increases in DPS, so its DPS remains static over time (as in many US companies) or grows by less than it would have done had the company not made flexible payouts. Augmentation arises if flexible payouts are used by regular dividend payers to increase the company's total payouts in some years, without affecting the growth of DPS.

First we study the initiation of payouts, and then re-initiation after a company omits its regular dividend. Panel A of Table 6 shows that 67.3% of first-time initiation of payout is done by means of a regular dividend, 18.7% by a flexible payout, and 14.0% by both combined. Included in the 18.7% that initiate by means of a flexible payout are 6.0% that then go on to start paying regular dividends (by 2018). So 87.3% of initiating companies start to pay regular dividends sooner or later. In terms of change over time, there is no significant change in initiation by regular dividend only between 1993–2000 and 2009–2018, and a modest decline if combined initiation is included, from 91.7% to 80.9% (significant at the 1% level, not shown). In comparison, Grullon and Michaely (2002) report for the United States that initiators via a dividend, on its own or combined with a repurchase, fall from 73% in 1974 to 16% by 2000.

Panel B examines re-initiation after the dividend is omitted. Re-initiation via regular dividend only falls from 86.2% in 1993–2000 to 65.6% in 2009–2018, a difference significant at the 1% level. The decline is less if combined initiation is included, from 89.6% to 76.1% (significant at the 1% level, not shown). The declines over time in initiation and re-initiation by regular dividend arise entirely between 1993–2000 and 2001–2008. There are slight increases between 2001–2008 and 2009–2018.

We note in addition that initiations by flexible payout include small repurchases that are likely to be pay-related (see the discussion of pay-related repurchases in Section 4). Of the first-time initiations (re-initiations) by flexible payout, 42.3% (56.0%) are repurchases below 1% of assets (not tabulated), and are therefore likely to be pay-related. Arguably a company which initiates via a pay-related repurchase does not fully initiate payout.

5.4.2 | Flexible payout and dividend cuts

Another way in which replacement might happen is for companies to cut DPS to accommodate flexible payouts. If this is the case, we expect the proportion of firm-years with a flexible payout

[23]On the other hand, Andres et al. (2015) report a substantial fall in SOA for regular dividends in Germany after repurchases are legalized in 1998. They argue that the adoption of repurchases by German firms results in lower flexibility of regular dividends.

TABLE 7 Flexible payouts around cut and no cut in DPS

This table reports the proportion of firm-years with flexible payout when DPS is cut by at least 10%, and when DPS is maintained or increased. The sample for a cut is firm-years with $0.9DPS_{t-1} \geq DPS_t > 0$. The sample for no cut is firm-years with $DPS_{t-1} \geq DPS_t > 0$. We require data for year $t+1$ in both cases.

	Proportion of firm-years with flexible payout in year							
Change in DPS	***t*−1**	***t***	***t*+1**	**Either *t* or *t*+1**	**Both *t* and *t*+1**	***p* value for difference, *t*–1 and *t***	***p* value for difference, *t* and *t*+1**	***N***
Cut in DPS of at least 10%	19.7%	16.5%	10.8%	21.1%	6.2%	0.003	0.000	2573
No cut in DPS	20.4%	22.5%	23.4%	31.2%	14.7%	0.000	0.042	16,927
p value for difference	0.359	0.000	0.000	0.000	0.000			

to increase around and following dividend cuts. The sample in Table 7 is companies that make a material cut in their regular DPS, of at least 10%, but do not omit the dividend. Of these companies 19.7% make a flexible payout in year $t-1$, 16.5% in year t, the year of the cut, and 10.8% in year $t+1$. So dividend cuts are associated with a falling, not rising, incidence of flexible payout. Of the companies that cut DPS, 21.1% make a flexible payout in year t or $t+1$; of the companies that maintain or increase DPS, 31.2% do so (the difference is significant at the 1% level). The incidence of flexible payouts is therefore substantially higher among companies which do not cut their dividend than among those which do. This does not support the notion that companies tend to cut regular DPS to make a flexible payout. Lie (2005) reports similar evidence for US companies.

5.4.3 | Flexible payout and dividend forecast errors

Grullon and Michaely (2002) use the Lintner model to forecast DPS. They find for US firms a positive relation between repurchase yield (repurchase/assets) and the shortfall of regular DPS compared with forecast DPS. This supports the replacement hypothesis: companies with higher repurchase yields tend to pay smaller regular dividends than would be expected. We conduct the same test. We estimate the Lintner model for each company i with a positive DPS each

TABLE 8 Flexible yield and dividend forecast errors

This table reports mean and median values of dividend forecast error and dividend yield, for categories of firm-year sorted by flexible payout yield. Forecast DPS for firm i in year t is from the Lintner model: $\widehat{DPS}_{it} = \hat{a}_i \hat{T}_i EPS_{it}\text{-}(1\text{-}\hat{a}_i)DPS_{it\text{-}1}$, where SOA ($\hat{a}_i$) and target payout ratio ($\hat{T}_i$) for firm i are estimated using Equation (2) with data from 1993 to 2002. Forecast error for a given firm-year = $(DPS_{it} - \hat{DPS}_{it})/Assets\ per\ share_{it-1}$. Flexible yield = $Flexible\ payout\ per\ share_{it}/Assets\ per\ share_{it-1}$. Dividend yield = $DPS_{it}/Assets\ per\ share_{it-1}$. The sample consists of firm-year observations for the period 2003–2018, for firms that pay a dividend continuously during 1993–2002. Observations are excluded if the absolute value of the scaled forecast error is greater than 5%. Flexible yield and dividend yield are winsorized at the 1st and 99th percentile.

		Quartiles by flexible yield				
	Zero flexible payout	**1**	**2**	**3**	**4**	**Full sample**
Flexible yield						
Mean	0.00%	0.09%	0.44%	1.40%	7.44%	0.93%
Median	0.00%	0.09%	0.42%	1.30%	5.79%	0.00%
Forecast error						
Mean	−0.08%	0.03%	0.04%	−0.02%	0.13%	−0.03%
p value	*0.000*	0.600	*0.456*	*0.661*	*0.032*	*0.049*
Median	0.00%	0.04%	0.01%	0.01%	0.04%	0.01%
p value	*0.163*	*0.152*	*0.283*	*0.517*	*0.008*	*0.424*
Dividend yield						
Mean	2.63%	2.88%	3.17%	3.48%	4.24%	2.95%
Median	2.28%	2.48%	3.02%	3.22%	3.61%	2.55%
N	2693	447	447	447	446	4480

year during 1993–2002. The firm-specific coefficients are then used with EPS_{it} and DPS_{it-1} to provide a forecast DPS for each subsequent year, $\hat{DPS}_{it}$. The scaled forecast error is

$$Forecasterror_{it} = [DPS_{it} - \hat{DPS}_{it}]/Assetspershare_{it-1}. \quad (3)$$

Observations are omitted if the absolute value of the scaled error exceeds 5%, as in Grullon and Michaely (2002), and dividend and flexible yield are winsorized at the 1st and 99th percentile.[24]

Table 8 shows the mean and median dividend yield and forecast error, for firm-years sorted by flexible-payout yield, for the period 2003–2018. There is no trend in the forecast errors, but quartile 4 (the largest) of the non-zero flexible yields has relatively large positive mean and median errors. The mean is significantly greater than zero at the 5% level, and the median at the 1% level.[25] There is therefore no sign that forecast errors for regular dividend become less positive or negative, as flexible payout increases, unlike in Grullon and Michaely (2002). In addition, there is a clear positive relation between flexible yield and dividend yield: as mean flexible yield increases from 0% for zero flexible payout to 7.4% for quartile 4, there is a monotonic increase in mean dividend yield from 2.6% to 4.2%. Companies with high regular payout in relation to assets tend to make high flexible payouts. Both results strongly support the augmentation hypothesis.

It is possible that a large flexible payout affects regular dividends in the years after the payout, as well as in the same year, because the company will have less cash available in subsequent years than if it had not made the large payout. In unreported analysis, we examine the relation between $Flexible\ payout_{it}/Assets_{it-1}$ and the cumulative forecast error from year t to up to $t + 3$, scaled by assets averaged over the same years. There is no relation between flexible yield and cumulative error measured over any of the time horizons. This suggests that large payouts do not have an impact on regular DPS in subsequent years.

5.4.4 | Flexible payout and dividend increases

Our final test of replacement examines the relation between flexible payout and increases in the regular dividend, following Bonaimé et al. (2020). These authors argue that, since companies are reluctant to cut DPS, replacement arises primarily when a company makes a repurchase instead of increasing its dividend. They run regressions in which the dependent variable is the maximum of the change in $Dividend_t/Assets_t$ and zero, or alternatively is one for an increase in dividend and otherwise zero. They find a significant negative relation between dividend increase and $Repurchase_t/Assets_t$, accounted for by preset repurchases made since 2000 under SEC Rule 10b5-1 (which enables repurchases to be made during trading blackout periods). This result supports replacement, at least for preset repurchases.[26]

[24]Grullon and Michaely (2002) scale by market value. We scale by assets, to avoid extreme values of forecast errors that can arise when market value is small in relation to dividends.

[25]In an unreported univariate regression with forecast error as the dependent variable, flexible payout has a positive coefficient, significant at the 5% level. The coefficient remains positive but becomes insignificant in a multivariate regression that includes control variables. The controls are as in Grullon and Michaely (2002, Table 6).

[26]Young and Yang (2011) run a regression for a UK sample for the period 1998–2006, with change in scaled total payout (regular dividend plus repurchase) as the dependent variable. They find a positive and significant relation between total payout and repurchase, which they argue supports augmentation.

TABLE 9 Flexible payout and dividend increases or changes

This table reports the results of regressions of increase or change in dividends on repurchase or flexible payout, including control variables. The sample period is 1993–2018 and all firm-years with available data are included. The dependent variable is $\Delta(Div_t/Assets_t)$ if $\Delta DPS > 0$, and 0 otherwise, in columns 1 and 2, estimated by tobit; one if $\Delta DPS > 0$, and 0 otherwise, in columns 3 and 4, estimated by logit; $\Delta(Div_t/Assets_t)$ in columns 5 and 6, estimated by OLS. Changes are measured from years $t-1$ to t, where t is a firm's financial year. *Cash* = cash and short-term investments; *Cashflow* = cash flow from operations; *Debt* = total debt; *Market-to-book*$_{t-1}$ = (*Assets* − *Shareholders' funds* + *Market capitalization*)$_{t-1}$/Assets$_{t-1}$; *Prior stock performance*$_{t-1}$ = return on the share minus return on FTSE-Allshare index over the 12 months before the start of year t; *Standard deviation of returns*$_{t-1}$ = annualized standard deviation of daily returns on the share over the 12 months before the start of year t; industry fixed effects use Datastream's industrial classifications (level 2). Robust standard errors (clustered by firm) are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively

	Increase in $Div_t/Assets_t$	**Increase in $Div_t/Assets_t$**	**$\Delta DPS > 0$**	**$\Delta DPS > 0$**	**$\Delta(Div_t/Assets_t)$**	**$\Delta(Div_t/Assets_t)$**
	1	**2**	**3**	**4**	**5**	**6**
$Repurchase_t/Assets_t$	0.042***		5.257***		0.037***	
	(0.006)		(1.453)		(0.006)	
$Flexible\ Payout_t/Assets_t$		0.026***		0.542		0.019***
		(0.004)		(0.867)		(0.004)
$Cash_{t-1}/Assets_{t-1}$	0.001	0.001	−0.963***	−0.926***	0.003***	0.003***
	(0.001)	(0.001)	(0.186)	(0.186)	(0.001)	(0.001)
$Cashflow_{t-1}/Assets_{t-1}$	0.022***	0.022***	7.224***	7.292***	−0.004***	−0.004***
	(0.002)	(0.002)	(0.336)	(0.336)	(0.001)	(0.001)
$Debt_{t-1}/Assets_{t-1}$	−0.002**	−0.002**	−0.937***	−0.950***	0.001	0.001
	(0.001)	(0.001)	(0.179)	(0.178)	(0.001)	(0.001)
$Market\ to\ Book_{t-1}$	−0.001***	−0.001***	−0.188***	−0.188***	−0.001***	−0.001***
	(0.000)	(0.000)	(0.023)	(0.023)	(0.000)	(0.000)
$Prior\ stock\ performance_t$	0.003***	0.003***	0.911***	0.907***	0.002***	0.002***
	(0.000)	(0.000)	(0.045)	(0.045)	(0.000)	(0.000)
$Standard\ deviation\ of\ returns_t$	−0.004***	−0.005***	−2.786***	−2.804***	0.002***	0.002***
	(0.001)	(0.001)	(0.158)	(0.159)	(0.000)	(0.000)
Ln($Market\ cap_{t-1}$)	0.001***	0.001***	0.271***	0.274***	−0.000***	−0.000***
	(0.000)	(0.000)	(0.016)	(0.016)	(0.000)	(0.000)
Constant	−0.008***	−0.008***	−2.100***	−2.137***	0.005***	0.005***
	(0.001)	(0.022)	(0.233)	(0.233)	(0.001)	(0.001)
Firm-years	23,808	23,808	23,808	23,808	23,808	23,808
Firm fixed effects	No	No	No	No	Yes	Yes

TABLE 9 (Continued)

	Increase in $Div_t/Assets_t$	Increase in $Div_t/Assets_t$	$\Delta DPS > 0$	$\Delta DPS > 0$	$\Delta(Div_t/Assets_t)$	$\Delta(Div_t/Assets_t)$
	1	2	3	4	5	6
Industry fixed effects	Yes	Yes	Yes	Yes	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Log likelihoods	34,606	34,612	−11,381	−11,390	n.a.	n.a.
R^2 (pseudo-R^2 columns 3 and 4)	n.a.	n.a.	0.31	0.31	0.03	0.03

Table 9 shows the results of equivalent regressions, with the same or similar control variables, and industry and year fixed effects. The signs of the control variables are consistent with their signs in Bonaimé et al. (2020). The coefficients on both $Repurchase_t/Assets_t$ and $Flexible\ payout_t/Assets_t$ are *positive* and, with one exception, highly significant. An increase in $Flexible\ payout_t/Assets_t$ of 1.0% point is associated with an increase of 2.6 points in $Dividend_t/Assets_t$ (column 2), so the relation is economically as well as statistically significant. We also include a third pair of results, from OLS regressions with firm and year fixed effects, in which the dependent variable is simply the change in $Dividend_t/Assets_t$. This specification does not impose a floor of zero on the change in dividend, and it facilitates the inclusion of firm (as opposed to industry) fixed effects, which is desirable in controlling for unobserved heterogeneity more precisely. The coefficients on both flexible payout and repurchase are positive and highly significant in the OLS regressions. A change in $Flexible\ payout_t/Assets_t$ of 1.0% point is associated with a change of 1.9 points in $Dividend_t/Assets_t$ (column 6).

The above results again support augmentation rather than replacement—companies tend to make larger flexible payouts in years when they make larger increases in dividend. A further result in Table 9 is that the coefficients are lower on flexible payout than on repurchase alone. This suggests that augmentation is stronger for repurchases than for special dividends.

5.4.5 | Discussion

Replacement of dividends is arising in the United States both because most companies initiate payout by means of repurchases rather than regular dividends by the 1990s, and because dividend-paying companies often maintain static DPS, and respond to time-varying earnings by means of time-varying repurchases. Company behaviour in the United Kingdom differs on both counts. Only 6% of companies pay out by flexible methods without paying dividends during 2001–2018 (Section 5.1), and most companies initiate or re-initiate payout by means of regular dividends (Table 6). Increases in DPS are the norm, and flexible payouts augment rather than replace the increases (Tables 4 and 9).

Our evidence raises the question of why dividends have a greater role in the United Kingdom. Potential explanations include greater willingness to change DPS, and to use special dividends, both of which diminish the flexibility advantage of repurchases. Beyond this, the

UK–US differences in payout behaviour are not readily explained. There was a tax advantage to dividends in the United Kingdom until 1997, but from then dividends have been more heavily taxed than capital gains, as in the United States (see the Appendix). Tax could help explain why the growth of repurchases was moderate up to the late 1990s, but not why repurchases continue to have a lesser role in the United Kingdom in the 2000s and 2010s. Pay awards by British listed companies for executives and staff include widely used features that give rise to incentives for repurchases, as do awards by US companies.[27] There is therefore little apparent promise of an explanation in the area of pay awards. Share ownership might offer more promise: institutional ownership is substantially higher for British companies, and there is evidence that investing institutions have a preference for dividends (e.g., Crane et al., 2016).[28] Yet institutional ownership does not account for the tradition of near-ubiquitous dividend payment by listed companies (until the late 1990s). The tradition was established before the emergence of professional investment in Britain in the 1950s, by which time nearly all listed companies already paid regular dividends, and were expected to do so (Cheffins, 2006). In summary, there is no immediately obvious institutional difference that might explain the greater role of dividends in the United Kingdom.

6 | CONCLUSION

A series of studies documents major changes in the nature of payouts by US listed companies. The US evidence includes a gradual but large decline since 1980 in the proportion of companies paying regular dividends; the near-disappearance of special dividends by NYSE companies; growing inflexibility of regular dividends, with no change in DPS being the most common decision; a very large increase in the use of share repurchases during the 1990s and 2000s; growing flexibility of total payout as a result of the increase in repurchases; and gradual replacement of regular dividends by repurchases. Studies using international data suggest that similar changes are occurring in other countries, though somewhat later than in the United States.

Our paper provides detailed evidence for the United Kingdom, for the period 1993–2018. We find that some of the above developments have arisen, and not others. The proportion of listed companies that pay a regular dividend declines sharply during 1998–2006, with some recovery thereafter. These changes are due partly to a growth in the proportion of early-stage companies from the late 1990s. But there was in addition a large fall in the propensity to pay regular dividends, concentrated in the years 1999–2006. Use of flexible methods of payout has grown substantially, especially repurchases, and they increase the responsiveness of total payout to earnings. But they do not explain much of the fall in propensity to pay.

We identify two primary differences in the payout behaviour of UK compared with US companies. First, repurchases are less important in relation to dividends than they are in the United States. British companies use special dividends as well as repurchases to make flexible payouts, and flexible payouts augment regular dividends, rather than replace them. Few

[27]Common features in the United Kingdom include executive stock options from the late 1980s, superseded by share awards under long-term incentive plans (most of which were not dividend-protected). Share or option awards for employees were common by the 2000s.

[28]Direct individual ownership of British listed companies by value, excluding via mutual funds, had fallen below 20% by 1990, and reached a low of 10% in 2007 (ONS, 2017). Direct individual ownership of US companies was 56% in 1990, falling to 37% by 2007 (Rydqvist et al., 2014, data supplement). Most of the remaining shares, in both countries, were managed by domestic or foreign investing institutions.

companies pay out by flexible means only, and tests of the behaviour of dividend payers show that there is a positive relation between increases in DPS and flexible payout, which indicates augmentation of increases rather than their replacement. Second, British companies are much more willing to change DPS.

Further research is needed to understand why the UK–US differences in dividend behaviour exist, and more generally to understand how much and why payout behaviour differs across countries. US companies might prove to be an outlier in terms of their heavy use of repurchases, and the inflexibility of their dividends. Other interesting topics are why the propensity to pay dividends suddenly declines in the United Kingdom during 1999–2006, and how companies choose between special dividends and repurchases when making flexible payouts.

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APPENDIX: INSTITUTIONAL SETTING

Special dividends

There are no laws or regulations applying specifically to special dividends. But starting in 1996, some companies implement payments by means of either a B-share scheme, or a court-approved capital reduction. Under a B-share scheme, a company issues redeemable shares pro rata to its shareholders, with the intention of buying them back shortly afterwards. Under a capital reduction, shareholders receive a cash payment plus shares in a new company that acquires the shares in the existing group. This is akin to a takeover in which shareholders of the target company sell their shares for cash and shares from the acquiring company. The schemes are means of paying a special dividend, since all shareholders are entitled to the same cash payment per share. Oswald and Young (2008a) argue that the schemes were implemented originally to avoid payment of advance corporation tax (ACT; below), but they have continued in use after ACT was abolished in 1999. B-share schemes evolved to give shareholders the choice between receiving a given payout as capital or as income, until this flexibility was ended in 2015.

Repurchases

The current rules governing repurchases are in sections 690–708 of the Companies Act 2006. Most repurchases by listed companies are open-market repurchases, whereby the company buys back its own shares on the stock market via a broker, under prior approval at the annual general meeting. A tender offer or other off-market purchase requires a special resolution to be passed. Until December

2003 repurchased shares had to be cancelled, unless held by the employee benefit trust. Thereafter treasury shares have been allowed—these are repurchased shares that are held by the company, receive no dividend, and can be re-issued, as in the United States.

Repurchases by listed companies are also governed by the Listing Rules, now controlled by the Financial Conduct Authority. The main provisions are (i) the price paid must be less than 5% above the average market price during the 5 preceding trading days, unless a tender offer is made, (ii) a repurchase larger than 15% of the shares in issue, or that takes cumulative purchases since the last general meeting of the company above 15%, must be by means of a tender offer, and (iii) any executed repurchase must be made public the next business day. Until July 2016 there was a further rule that prohibited repurchases during "close periods" when directors and executives are prevented from trading in their company's shares. Close periods include the 60 days before announcement of the full-year results, and the period from the end of the first half-year to the announcement of the half-year results. But pre-arranged repurchases were permitted during close periods, "in accordance with an agreement where the date, amount and price of the securities to be bought back was fixed, and was entered into at a time when a director of the company would have been free to deal" (Listing Rule 15.1(c), 2002). The E.U.'s Market Abuse Regulation now governs close periods; pre-arranged repurchases remain permitted.

Personal tax

Dividends are taxed as marginal income, but with special arrangements whereby the tax rates can differ from those on income from employment. Open-market repurchases, which are the vast majority, are taxed as capital gains.[29] In tender offers and other off-market repurchases, the "distribution element", that is, the difference between the repurchase price and the price the share was first issued, is taxed as income.

An assessment of effective personal tax rates depends on the proportions of shares owned by each category of shareholder with respect to tax, and on the tax rates applicable. During 1973–1999 the United Kingdom operated an imputation system whereby companies paid ACT on dividends gross of ACT, at the standard or (later) basic rate of income tax (20% from 1993). ACT counted as part of both corporation tax for the company on its UK profits, and income tax for the shareholder. Tax-exempt UK shareholders could reclaim ACT that had been paid by the company. The entitlement of pension funds to reclaim ACT was abolished in 1997, and ACT itself was abolished in 1999. But the special rates of income tax payable by individuals on dividends as received, net of ACT up to 1999, remained unchanged until 2010.

Based on an average rate by tax category weighted by ownership, the effective personal tax rate on dividends has been estimated to be *negative* from 1976 to 1997, because of the growth of ownership by pension funds (with a large negative tax rate because they could reclaim ACT) and life assurance companies (the effective rate of tax on their investment income was negative to 1986, and low thereafter).[30] The effective rate of capital gains tax (CGT) was low but

[29]Oswald and Young (2004) identify 2921 post-execution announcements of open-market repurchases, and fewer than 282 off-market repurchases, by UK listed companies and investment trusts during 1995–2000. Our paper uses cash amounts repurchased per firm-year; we do not study types of repurchase.

[30]For more on effective tax rates on dividends and capital gains, see King (1977), Poterba and Summers (1984), Armitage (2004), and Geiler and Renneboog (2015). The effect of the 1973 imputation system in reducing the effective tax rate on dividends is transparent in Poterba and Summers, Table 1.

positive.[31] Overall there was a tax advantage to dividends up to 1997 for UK shareholders on a weighted-average basis, and a tax disadvantage thereafter. Ownership of British listed companies by foreign investors was growing by the 1990s, and grew to 54% by value by 2016 (ONS, 2017). North American investors account for nearly half of foreign ownership. There is surely a tax disadvantage to dividends for foreign owners as a group. Hence, there has been a tax disadvantage to dividends for both domestic and foreign owners of British companies since 1997.

[31]The top statutory rate on capital gains was 40% during 1989–2008, higher than the top rate on dividends. But effective rates of CGT are much lower than statutory rates, due to the ability to defer capital gains and offset them against losses, and to annual exemptions. Since 2008 the top rate on dividends has exceeded that on capital gains.